

REMARKS/ARGUMENTS

Claims 1-2, 4-6, 8-12, 14, 16-18, 20-22, 24-28, 30, and 32-33 are pending in the present application. Claims 3, 7, 13, 15, 19, 23, 29, and 31 are canceled. Claims 1, 2, 4-6, 9, 11-12, 14, 17, 18, 20-22, 25, 27-28, 30, 32, and 33 are amended. Support for the amendments to the claims is located at least in the previous draft of the claims and in the specification on page 8, line 28, through page 11, line 10; page 12, line 1, through page 15, line 15; on page 16, lines 7-15; on page 18, lines 26-32; on page 19, line 25, through page 20, line 26; and in Figures 3 and 4. This Response is filed with a Petition to Revive and the accompanying fee. An examiner interview was requested. Examiner Phan stated that the interview could not be granted since the case is no longer on his docket. Applicants thank Examiner Phan for the courtesies extended to Applicants' representatives during the January 7, 2009 telephone conversation. Reconsideration of the claims is respectfully requested.

I. 35 U.S.C. § 112, Second Paragraph

The Office Action has rejected claim 1 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, which Applicants regard as the invention. This rejection is respectfully traversed.

Regarding claim 1, the Office Action states:

Regarding claim 1, the language of the claim is awkward. There are a subscriber and another subscriber, and there is the subscriber, thus claim 1 recites the limitation "the subscriber" in line 11. There is insufficient antecedent basis for this limitation in the claim. For examination on the merits, the claim will be interpreted as best understood by the Examiner.

Office Action dated November 27, 2007, p. 2.

Claim 1 is amended to further clarify the claimed subject matter as suggested by the Examiner. Therefore, the rejection of claim 1 under 35 U.S.C. § 112, second paragraph has been overcome.

II. 35 U.S.C. § 102, Anticipation

The Office Action has rejected claims 1, 17, and 33 under 35 U.S.C. § 102 as being anticipated by *Rosenberg et al.*, Signaling Method for Internet Telephony, U.S. Patent No. 6,937,597, August 30, 2005, (hereinafter “*Rosenberg*”). This rejection is respectfully traversed.

Regarding claims 1, 17, and 33, the Office Action states:

Regarding claims 1, 17 and 33, Rosenberg teaches a multicast publish/subscribe messaging system comprising a broker and a plurality of subscribers (i.e. a server and a plurality of clients, abstract), the system comprising:

a subscriber of the plurality of subscribers (i.e. a client of plurality of clients, col. 17, lines 39-49) including a liveness indicator for indicating liveness to the broker (i.e. **liveness indicator is an advertisement of active status or invitation when sending the request to the server**, col. 17, lines 39-46), the liveness indicator comprising:

setting a timer (i.e. **random period time T**, col. 17, lines 60-62), responsive to the subscriber seeing a first indication of liveness (i.e. **the first indication of active status when sending the request to the server**), for setting a timer (i.e. time T, col. 17, lines 60-62);

canceling means (i.e. cancel its own before time T expires, col. 17, lines 60-65), responsive to the subscriber seeing a second indication of liveness from another subscriber of the plurality of subscribers prior to expiry of the timer (i.e. **receiving response from another [second], cancel its own before time T expires**, col. 17, lines 60-65), for canceling the timer (i.e. **to cancel the response to the request included response time**, col. 17, lines 60-67); and

sending means responsive to expiry of the timer, for the subscriber to send a third indication of liveness to the broker (i.e. **after the amount of time T expired, server acknowledges the active status of the client which is the third indication of liveness**, col. 17, lines 60-63

Office Action dated November 27, 2007, pp. 3-4 (emphasis in original).

As amended, independent claim 17, which is representative of the other rejected independent claims 1 and 33 with regard to similarly recited subject matter, reads as follows:

17. A method for indicating liveness to a broker in a multicast publish/subscribe messaging system comprising the broker and a plurality of subscribers, the method comprising:

designating a first subscriber of a plurality of subscribers to register interest in a topic as a primary subscriber;

informing the primary subscriber that the primary subscriber is responsible for periodically indicating liveness to the broker, wherein the indicating liveness to the broker is sent over a live connection;

responsive to detecting a first indication of liveness at the primary subscriber, setting a timer, wherein the primary subscriber does not send additional indications of liveness prior to expiry of the timer, and wherein the first indication of liveness indicates that the primary subscriber intends to send an indication of the primary subscriber's presence to the broker;

responsive to the primary subscriber detecting a second indication of liveness from another subscriber of the plurality of subscribers prior to the expiry of the timer, cancelling the timer; and

responsive to expiry of the timer, the primary subscriber sending a third indication of liveness to the broker.

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994). Anticipation focuses on whether a claim reads on the product or process a prior art reference discloses, not on what the reference broadly teaches. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 U.S.P.Q. 781 (Fed. Cir. 1983). Applicants respectfully submit that *Rosenberg* does not identically show every element of the claimed invention arranged as they are in the claims. Specifically, *Rosenberg* does not teach or suggest each and every feature as recited in amended independent claims 1, 17, and 33.

Rosenberg is directed to a method for creating, modifying, and terminating connections between Internet end systems. The method relies on several request messages sent between a client and a server and the messages sent back in response. Each request and response message may contain one or more header fields which modify or more uniquely link the messages with a given connection. On this basis, advanced telephony services, such as call forwarding, call transferring, and multiparty conferencing are provided. The method provides the telephony services using tools called "primitives" defined in Session Initiation Protocol (SIP). *Rosenberg* does not teach or suggest "informing the primary subscriber that the primary subscriber is responsible for periodically indicating liveness to the broker, wherein the indicating liveness to the broker is sent over a live connection," as recited in amended independent claims 1, 17, and 33.

With respect to the rejection of independent claims 1, 17, and 33, the Office Action refers to the following portions of *Rosenberg*:

In order to scale reach-all and reach-first applications for both local and wide area usage, some basic rules and protocol mechanisms for multicast usage are defined. Since many parties may send SIP messages to a multicast group (particularly for an advertise application), clients must implement a back-off algorithm before sending a message. This is called reconsideration and allows for fair distribution of bandwidth among sends in a multicast group with a minimal amount of state storage or complexity. Before a client sends, it listens to the group to see if anyone else is sending. If so, it reschedules its transmission of the request based on the number of other senders heard sending. For advertising applications, it is desirable to send the message periodically. Reconsideration defines the mechanism by which each client determines the period for message retransmission.

Once the message is multicast, there must be some indication of whether it is to reach all, reach first, or advertise. This is indicated in the CALL DISPOSITION header field.

For advertising, the servers which receive the request do not respond. Since the request is an INVITE message with a multicast group listed for the conference, the servers can join the group immediately and participate in the session.

For reach first, we desire just one response (i.e., the first response) from among all recipients of the invitation. This is the same as the "NAK-suppression problem" known in reliable multicast.

Therefore, when a server receives a multicast invitation with a reach-first disposition, the server waits a random amount of time T , and then multicasts a response. Should the receiver hear another server respond before sending its own response, it cancels its own response before time T elapses. If multiple servers send responses back to the group, then the one with the lowest unicast address is considered the "winner" in terms of having been first. To acknowledge this, the client sends its ACK message to the multicast address to ensure that all participants have the same idea of who was first, listing the winner in the TO header. The winner responds to this message with a unicast, not multicast, response.

Rosenberg, column 17, line 32, through column 18, line 5.

This portion of *Rosenberg* discloses that before a client sends a request, it listens to the group to see if anyone else is sending. If so, the client reschedules its transmission of the SIP request based on the number of other senders heard sending. The CALL DISPOSITION header field of the SIP request indicates whether the request is to reach all, reach first, or advertise. When a server receives a multicast invitation with a reach-first disposition, the server waits a random amount of time T , and then multicasts a response. If the receiver hears another server

respond before sending its own response, the receiver cancels its own response before time T elapses. The first server to receive the request responds to the request with a unicast response. *Rosenberg* teaches using the SIP request-response model for telephony services. *Rosenberg* does not teach or suggest “informing the primary subscriber that the primary subscriber is responsible for periodically indicating liveness to the broker, wherein the indicating liveness to the broker is sent over a live connection,” as recited in amended independent claims 1, 17, and 33.

In view of the above, Applicants respectfully submit that *Rosenberg* does not teach each and every feature of independent claims 1, 17, and 33, as is required under 35 U.S.C § 102. In addition, *Rosenberg* does not teach each and every feature of dependent claims 2, 4-6, 8, 10, 16, 18, 20-22, 24, 26, and 32 at least by virtue of their dependency on claims 1 and 17, respectively. Claims 3, 7, 19, 23, and 23 are canceled. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 1, 2-10, 16, 17, 18-26, 32, and 33 under 35 U.S.C § 102.

In addition to being dependent on their respective independent claims 1 and 17, claims 2, 4-6, 8, 10, 16, 18, 20-22, 24, 26, and 32 also distinguish over the cited references based on the specific features recited therein. For example, with respect to claims 4 and 20, *Rosenberg* does not teach or suggest a feature of canceling a timer that comprises “determining whether a desired number of subscribers of the plurality of subscribers have indicated liveness, and that the broker is aware of the presence of at least one subscriber; and responsive to determining that a desired number of subscribers of the plurality of subscribers have indicated liveness and that the broker is aware of the presence of at least one subscriber, cancelling the timer and starting a new timer.”

With respect to claims 8 and 24, *Rosenberg* does not teach or suggest that “at least one of the first indication of liveness, the second indication of liveness and the third indication of liveness is piggybacked onto another message.” *Rosenberg* does not mention piggybacking (or an equivalent function) an indication of liveness onto another message.

III. 35 U.S.C. § 103, Obviousness

The Office Action has rejected claims 11-15 and 27-31 under 35 U.S.C. § 103 as being unpatentable over *Rosenberg*, and further in view of *Kumar*, Method of Multicast File Distribution and Synchronization, U.S. Patent No. 6,269,080, July 31, 2001 (hereinafter “*Kumar*”). This rejection is respectfully traversed.

As discussed above, *Rosenberg* does not teach each and every feature of independent claims 1 and 17. Specifically, *Rosenberg* does not teach or suggest “informing the primary subscriber that the primary subscriber is responsible for periodically indicating liveness to the broker, wherein the indicating liveness to the broker is sent over a live connection,” as recited in amended independent claims 1 and 17. Therefore, Applicants respectfully submit that *Rosenberg* does not teach each and every feature of claims 11-12, 14, 27-28, and 30 at least by virtue of their dependency on claims 1 and 17, respectively. In addition, *Kumar* does not provide for the deficiencies of *Rosenberg* with respect to independent claims 1 and 17. *Kumar* is directed to a method for multicast file distribution and synchronization in data networks. A data file is distributed from a single source to a large number of receivers using multicast distribution. An active receiver is designated and there is only one active receiver at a time. Each receiver will become an active receiver in a controlled manner until all of the receivers receive all of the data segments of the data file. *Kumar* does not teach or suggest “informing the primary subscriber that the primary subscriber is responsible for periodically indicating liveness to the broker, wherein the indicating liveness to the broker is sent over a live connection,” as recited in amended independent claims 1 and 17. Thus, *Rosenberg* and *Kumar* fail to teach or suggest this feature. Therefore, the combination of *Rosenberg* with *Kumar* does not teach or suggest this feature of amended independent claims 1 and 17. Thus, Applicants respectfully submit that the combination of *Rosenberg* with *Kumar* does not teach or suggest the features of claims 11-12, 14, 27-28, and 30 at least by virtue of their dependency on independent claims 1 and 17, respectively. Claims 13, 15, 29, and 31 are cancelled. Therefore, any alleged combination of *Rosenberg* with *Kumar* does not establish a *prima facie* case of obviousness based on the prior art. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 11-15 and 27-31 under 35 U.S.C § 103.

IV. Conclusion

It is respectfully urged that the subject application is patentable over the cited references and is now in condition for allowance.

The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,

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